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The deaths of the following members were announced :

Gustav Kirchhoff, Berlin, October 17, 1887, æt. 63.

Thomas M. Walter, Ph.D., LL.D., Philadelphia, October 30, 1887, æt. 83.

Alfred Mordecai, Philadelphia, October 23, 1887, æt. 84.

And on motion, the President was authorized to appoint suitable persons to prepare the usual obituary notices of Messrs. Walter and Mordecai. [Subsequently the President appointed Dr. Hays for Major Mordecai and Dr. Rothrock for Dr. Randolph.]

Dr. Brinton read a paper on the "so-called" *Alaguilac* language of Guatemala.

Prof. Cope made an oral communication on the mechanical causes of the structure of teeth in certain mammalia groups.

New nomination 1171 was read.

The Society authorized the President, Secretary and Treasurer to receipt for the legacy of \$2000 from the estate of Henry Seybert, deceased, now ready to be paid over.

The Committee on the Purchase of the Humboldt Portrait reported progress.

An invitation to attend the lecture on "Rapid Transit in Cities," by Prof. Haupt, at the Franklin Institute, on Friday, November 11, 1887, was given to the Society.

And the Society was adjourned by the President.

Stated Meeting November 18, 1887.

Present, 31 members.

President FRALEY in the Chair.

Messrs. W. F. Norris and G. DeBennville Keim took their seats.

Correspondence was submitted as follows: A letter from Prof. Edgar F. Smith, of Springfield, Ohio, accepting membership.

A circular from the New York Academy of Sciences, asking

contributions to a memorial monument to John James Audubon, to be erected in the city of New York.

Letters from the Geographische Gesellschaft, Munich, and also one from the Colorado Scientific Society, of Denver, requesting exchanges, which requests, on motion, were granted.

Letters of envoy from the Royal Statistical Society and Meteorological Office, London.

Letters of acknowledgment from the Royal Society of New South Wales (123); K. K. Central-Anstalt für Meteorologie und Erdmagnetismus, Wien (125); Naturforschende Gesellschaft, Emden (125); Prof. Adolph Bastian (125), and Meteorologisches Institut, Berlin (117-125, etc.); Prof. G. vom Rath, Bonn (125); Naturwissenschaftlicher Verein zu Bremen (125); K. Sternwarte, Munich (125); Société Historique Littéraire, etc., du Cher (125); Société Géologique de France, Victor Duruy and Prof. Abel Hovelacque, Paris (125); Mr. L. A. Scott, Philadelphia (125 and all previous numbers).

Accessions to the Library were reported from the Geographische Gesellschaft in München; Prof. Henri de Saussure, Genève; Prof. G. Sergi, Rome; R. Academia de la Historia, Madrid; Meteorological Council, R. Statistical Society, Sir Lowthian Bell, London; Historical Society, Commission of the State Reservation at Niagara, Buffalo; Prof. J. S. Newberry and publishers of "The Cosmopolitan," New York; Publishers of "The Medical and Surgical Reporter," and Mr. Henry Phillips, Jr., Philadelphia; Bureau of Education, Washington, D. C.; Washburn College, Kansas State Society, Topeka; Colorado Scientific Society, Denver; Observatorio Astronomico Nacional de Tacubaya, Mexico; República Argentina, America del Sud-Buenos Aires.

A photograph of Prof. F. Max Müller, of Oxford, was presented by himself for the Album of the Society.

An obituary notice of the late Isaac Lea, LL.D., by Prof. Joseph Leidy, was read.

The Proceedings of the Officers and Council were submitted, and the Clerk of the Council transmitted the Report of the

Special Committee appointed by the Society on May 20, 1887, to examine into the merits of a communication for the Magellanic Premium, signed "*Magellan*," upon "The Physical Phenomena of Harbor Entrances; Their Causes and Remedies; Defects of present. Methods of Improvement," and with the same the statement that the Council approved of the recommendation that the Magellanic Premium should be awarded therefor.

A paper entitled "Notes on the Ethnology of British Columbia," by Dr. F. Boas, was presented through the Secretaries.

Dr. Brinton read a paper on "An Ancient Human Foot-print from Nicaragua," of which he exhibited a specimen, and in the discussion that ensued Prof. Heilprin stated that in his opinion the deposit in which it occurred was not of the Eocene period, but was Post-pliocene.

Prof. E. F. Smith (Springfield, Ohio) presented (through the Secretaries) a paper on "Electrolysis of Lead Solutions."

Pending nomination No. 1171 and new nomination No. 1172 were read.

Prof. Edwin J. Houston made the following oral communications :

On a Non-Magnetizable Watch.

C. A. Paillard, of Geneva, Switzerland, after some fourteen years' experimentation, has succeeded in producing a watch that is entirely destitute of any magnetizable material.

The rapid growth of electric lighting and electric railways renders the magnetization of watches a matter of frequent occurrence, and the injury to the accuracy of time-pieces occasioned by inadvertently entering the magnetic field of the dynamo-electric machines, or motors producing the current, is well known.

Heretofore a magnetic shield, consisting essentially of an iron-encasing box, has been employed to protect the works of the watch against the influence of an external magnetic field. Such shields are, for the greater part, clumsy and heavy.

Mr. Paillard's invention effects the protection of the watch in a much more thorough manner, and does so without rendering it any heavier.

It will be seen that the problem Mr. Paillard set himself to solve, was

num, thus permitting much greater accuracy of the record received. At the same time the point attached to the receiving diaphragm has a positive motion in both directions, and can thus more correctly reproduce the characteristic quality of the spoken words.

In any phonogram-record made in a direction at right angles to the record surface, the fact that the resistance to impression does not increase in the same proportion as the depth of the impression will prevent the record from agreeing closely with the original tones. Loud tones must therefore fail to impress their characteristic quality on the phonogram-record, as correctly as more feeble tones.

Mr. Berliner prepares his receiving surface as follows : A plate of glass is covered with a layer of printers' ink, and then held in the smoky flame of a coal oil lamp and covered with a uniform layer of soot. On the surface thus prepared the stylus or point attached to the transmitting diaphragm, makes its record of a uniform depth. It then only remains to fix the record so obtained. This is accomplished by the simple expedient of flowing the plate with any ordinary quick-drying varnish. From this plate the sound can be directly reproduced, or a copy of it can be made on any desired metal.

There are three ways in which the reproduction may be made, viz :

1st. By the simple process of mechanical engraving.

2d. By chemical deposition.

3d. By photo-engraving.

This latter process is preferred by the inventor, the chromo-gelatine process being generally adopted.

The Committee on the Michaux Legacy presented a report, accompanied by the following resolution, which was, on motion, adopted :

“Resolved, That the sum of \$200 be expended under the supervision of the Michaux Committee, for the expenses of lectures of Prof. Rothrock, to be delivered in the Chapel of the University of Pennsylvania.”

The committee appointed October 21, 1887, to examine into the scientific value of the newly invented language, Volapük, and to report thereon, presented its report, which, after discussion, was, on motion of Mr. Winsor, made the special order for the next meeting of the Society, and the Secretaries were requested to have it printed and distributed among the resident members for inspection.

And the Society was adjourned by the President.